SF Series

Barstock Version

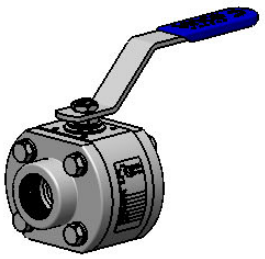
Technical Datasheet

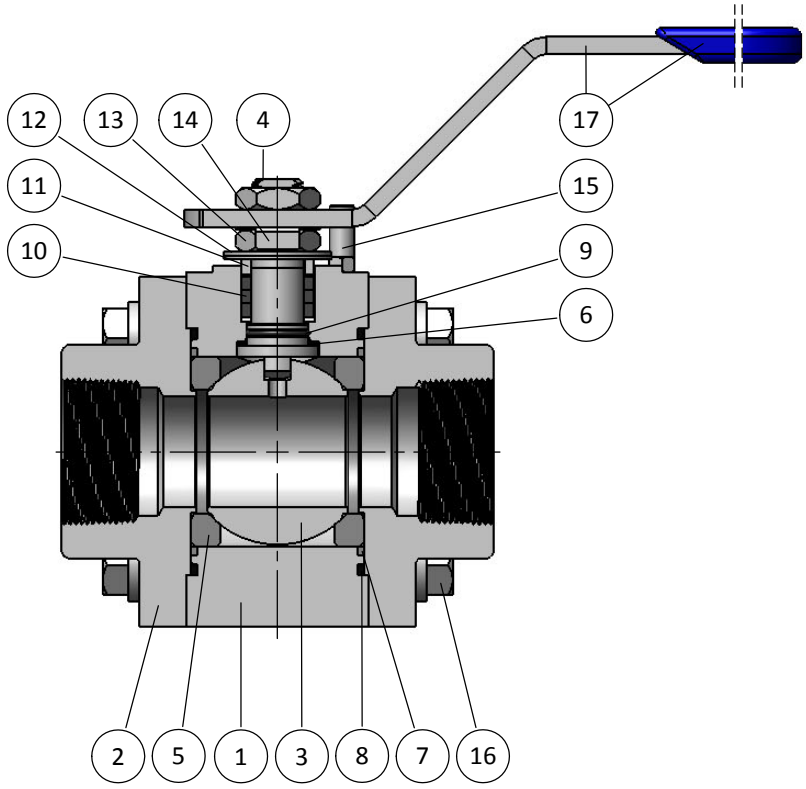
Soft Seated Floating Ball Valves
FB DN 15 (½") to DN 100 (4")
RB DN 20 (¾") to DN 100 (4")
CL300 to 800
-100 °C to 280 °C

DS.IND.SF.BAR.R03

SF SERIES

CL800 (2000 psi)
FULL BORE - DN 15 (½") ÷ 40 (1½")
REDUCED BORE - DN 20 (¾") ÷ 50 (2")
STANDARD
BILL OF MATERIALS



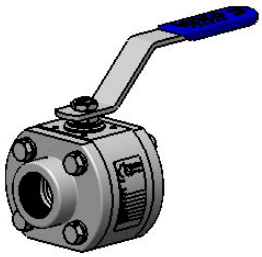


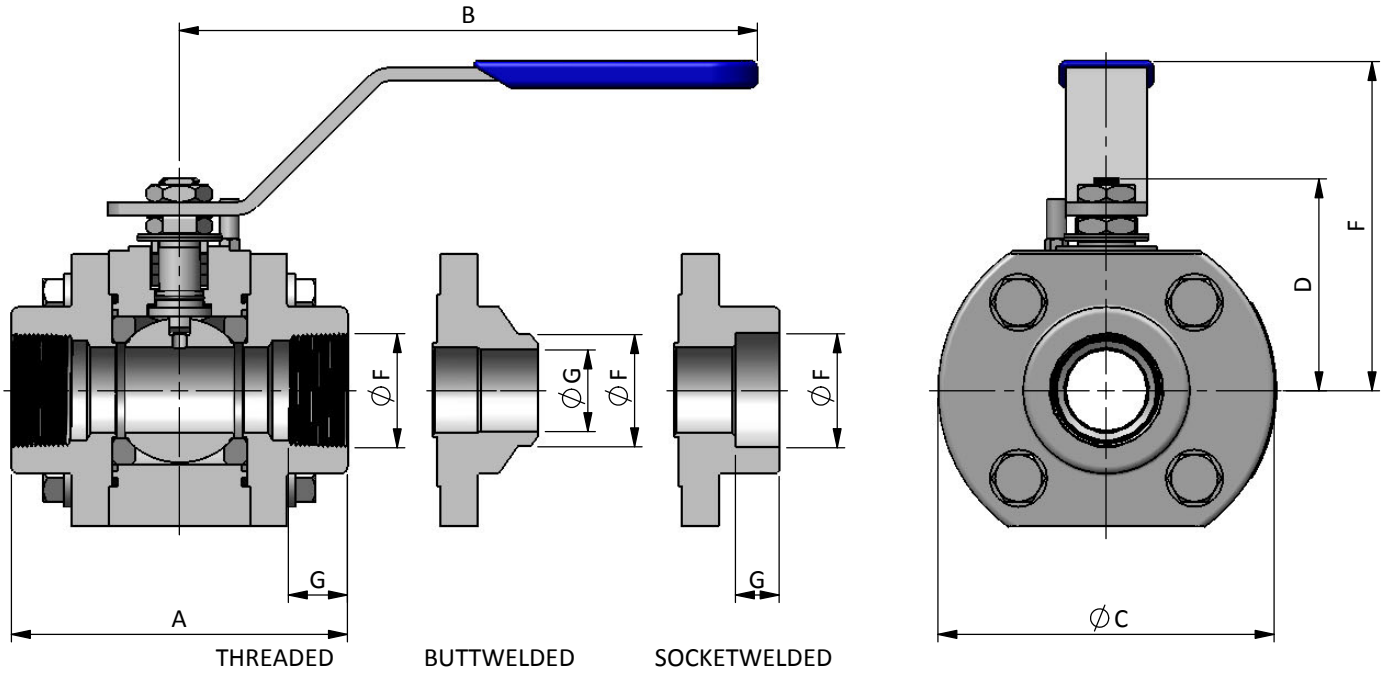
BILL OF MATERIALS *				
Part	**Qt.**	**Description**		**DUPLEX VERSION**
1	1	Body	↔	A479 S31803
2	2	End	↔	A479 S31803
3	1	Ball	↔	A479 S31803
4	1	Stem	↔	A479 S31803
5	2	Seat	↘	C-RPTFE
6	1	Stem Thrust Seals	↘	C-RPTFE + PEEK
7	2	1st Body Seal	↘	C-RPTFE
8	2	2nd Body Seal	↘	GRAPHITE
9	1	O'Ring	↘	FKM
10	1	Stem Packing Set	↘	GRAPHITE + PEEK
11	1	Gland Packing		STAINLESS ST. 316
12	2	Disc Spring		STAINLESS ST. 316
13	2	Stem Nut		STAINLESS ST. 316
14	1	Locking Clip		STAINLESS ST. 316
15	1	Stop Pin		STAINLESS ST. 316
16	-	Bolt		A193 Gr. B8M cl.2
17	1	Handle		STAINLESS ST. 316 / VINYL

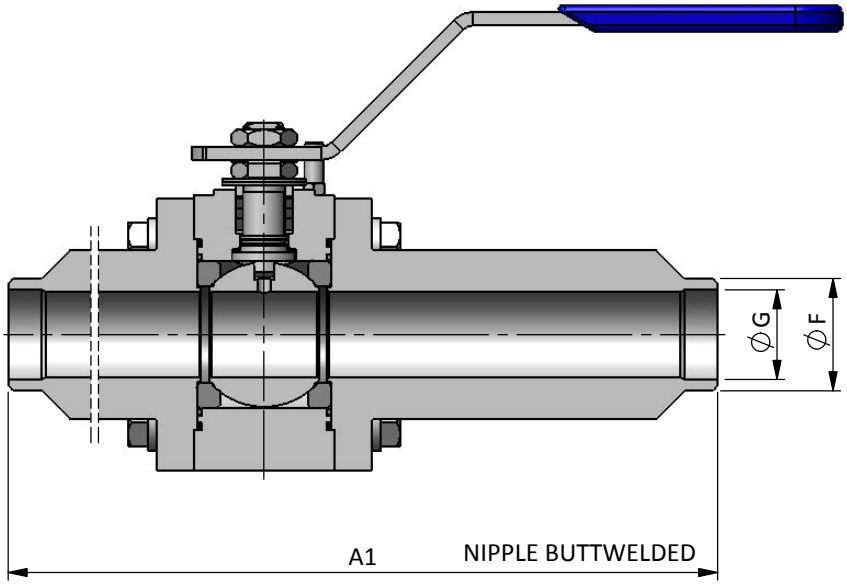
↘ TYPICAL SPARE PARTS
↔ OTHERS AVAILABLE
* Carbon and stainless steel materials are available in forged version - DS.IND.SF.FORGED

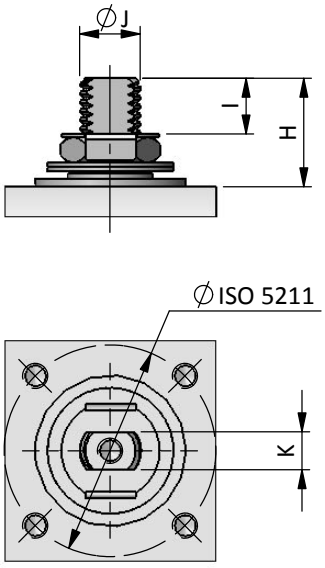
SF SERIES

CL800 (2000 psi)
FULL BORE - DN 15 (½") ÷ 40 (1½")
REDUCED BORE - DN 20 (¾") ÷ 50 (2")
THREADED & WELDED ENDS









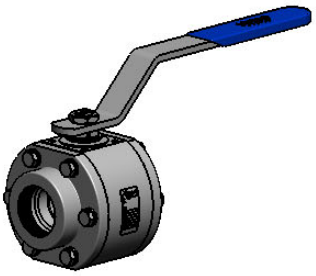
DN / Size				Dimensions									Automation					Weight Approx. [kg]	
FULL BORE		REDUCED BORE		Ball Port	A	A1	B	C	D	E	F	G	H	I	J	K	ISO 5211		
mm	inch	mm	inch															Short	Long
15	½"	20	¾"	15.1	75	250	140	75	48	72.5	NPT BSPT BSP BW SW		16.5	8.5	10	6	F03*	2	3
20	¾"	25	1"	20.6	90	260	170	90	59.5	92.5			21.5	11	12	7.5	F04*	3	4.5
25	1"	32	1¼"	25.4	100	270	170	100	63.5	96.5			21.5	11	12	7.5	F04	4	5.5
32	1¼"	40	1½"	31.8	115	280	200	115	75	115			26.5	13.5	16	11	F05	6	7.5
40	1½"	50	2"	38.1	125	290	200	125	80	120			26.5	13.5	16	11	F05	8	10

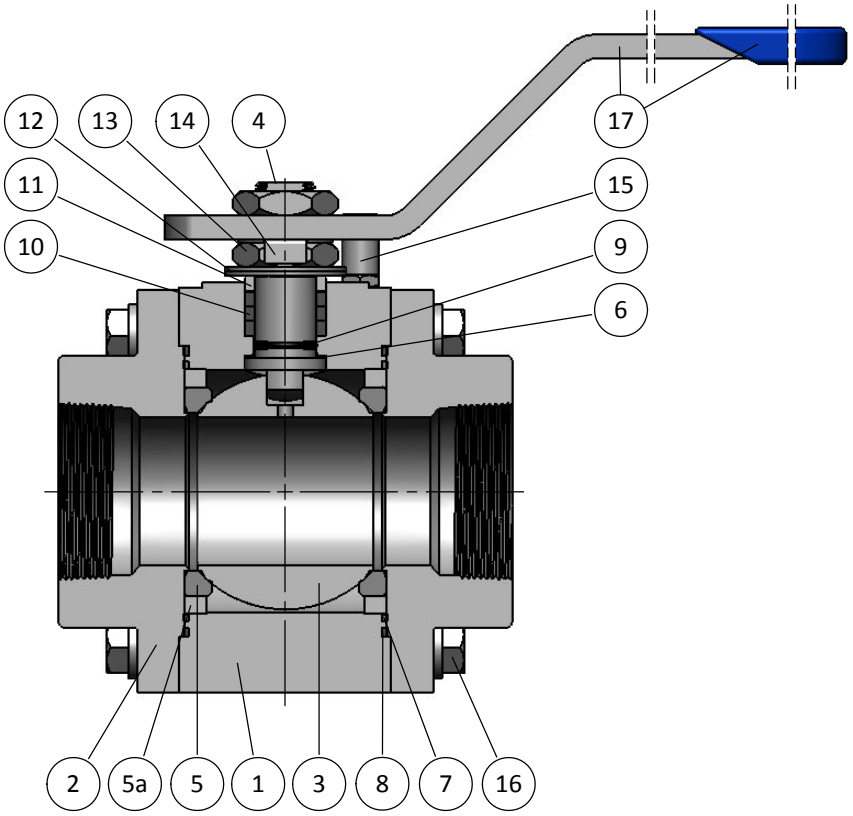
Nipple buttweld only available in full bore version

*ISO Flange Adapter

SF SERIES

CL600/400/300 (1500/1000/750 psi)
FULL BORE - DN 50 (2") ÷ 100 (4")
REDUCED BORE - DN65 (2½") ÷ 100 (4")
STANDARD
BILL OF MATERIALS





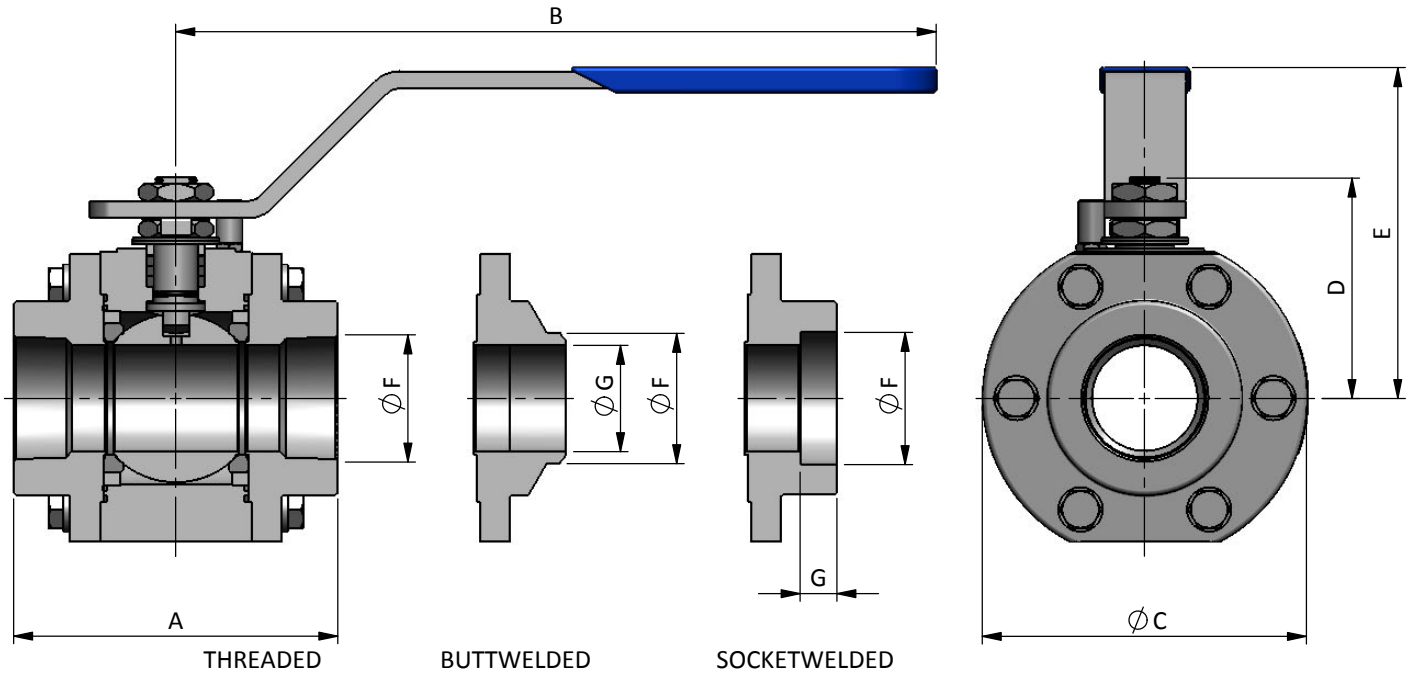
BILL OF MATERIALS

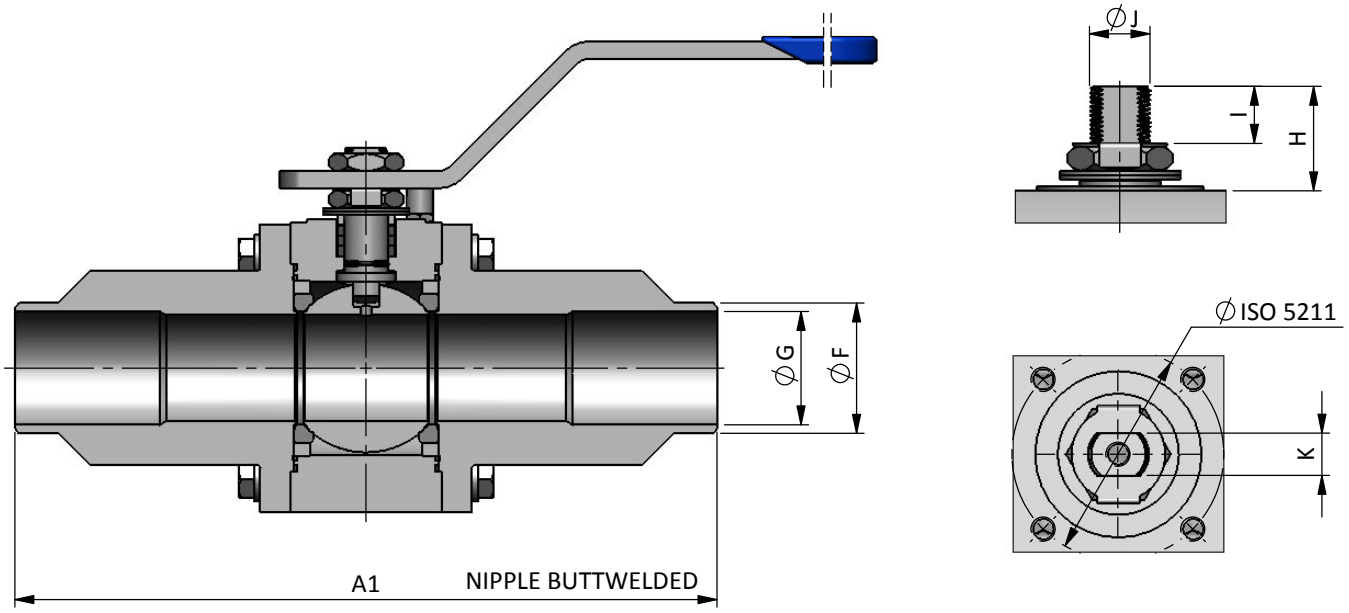
Part	Qt.	Description		CARBON STEEL VERSION	STAINLESS STEEL VERSION	DUPLEX VERSION	
1	1	Body		A350 LF2 cl.1	A479 316/L	A479 S31803	↔
2	2	End		A350 LF2 cl.1	A479 316/L	A479 S31803	↔
3	1	Ball		A351 CF8M		A479 S31803	↔
4	1	Stem		A479 316/L		A479 S31803	↔
5a	2	Seat Ring		A350 LF2 cl.1	A479 316/L	A479 S31803	↔
5	2	Seat	↘	C-RPTFE			
6	1	Stem Thrust Seals	↘	C-RPTFE + PEEK			
7	2	1st Body Seal	↘	C-RPTFE			
8	2	2nd Body Seal	↘	GRAPHITE			
9	1	O'Ring	↘	FKM			
10	1	Stem Packing Set	↘	GRAPHITE + PEEK			
11	1	Gland Packing		A479 316/L			
12	1/2	Disc Spring		STAINLESS ST. 316			
13	2	Stem Nut		STAINLESS ST. 316			
14	1	Locking Clip		STAINLESS ST. 316			
15	1	Stop Pin		STAINLESS ST. 316			
16	-	Bolt		A193 Gr. L7M ZINC.	A193 Gr. B8M cl.2		
17	1	Handle		CARBON ST. ZINC. / VINYL		STAINLESS ST. 316 / VINYL	

↘ TYPICAL SPARE PARTS
↔ OTHERS AVAILABLE

SF SERIES

CL600/400/300 (1500/1000/750 psi)
FULL BORE - DN 50 (2") ÷ 100 (4")
REDUCED BORE - DN 65 (2½") ÷ 100 (4")
THREADED & WELDED ENDS



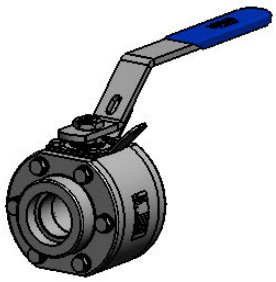


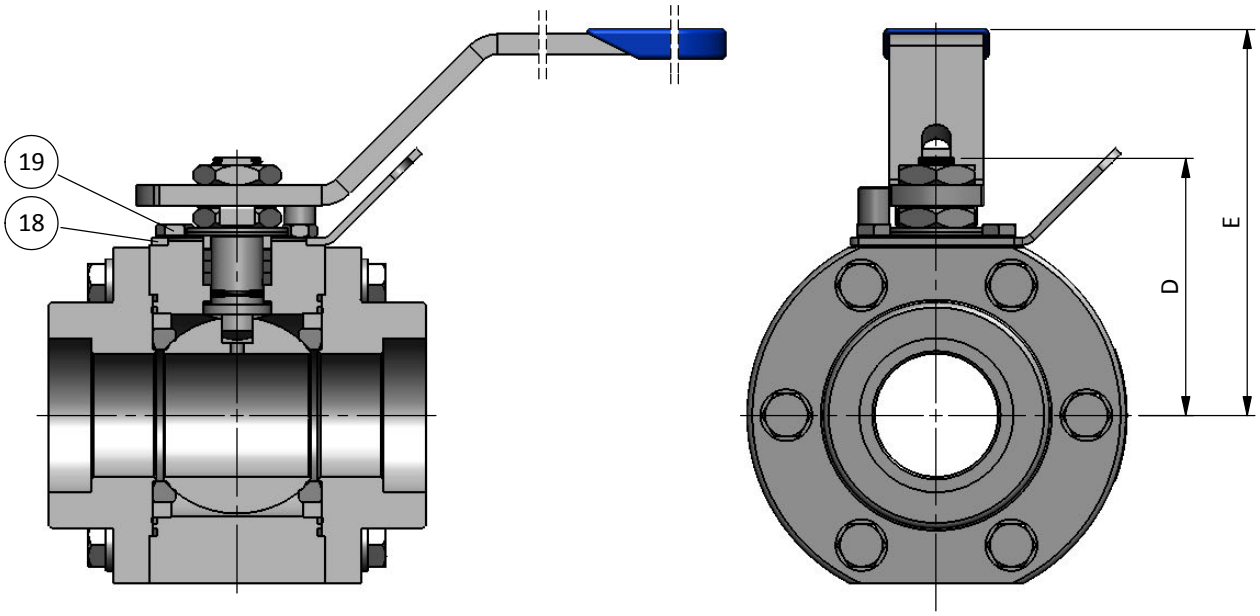
DN / Size				Dimensions									Automation					Weight Approx. [kg]	
FULL BORE		REDUCED BORE BUTTWELDED*		Ball Port	A	A1	B	C	D	E	F	G	H	I	J	K	ISO 5211		
mm	inch	mm	inch															Short	Long
50	2''	65	2½''	49	150	300	350	150	105	150	NPT		35	19.5	20	14	F07	12	19.5
65	2½''	80	3''	62	190	320	400	180	125	175	BSPT		45	23.5	24	18	F07	23.5	32
80	3''	100	4''	75	215	340	400	200	135	185	BSP		45	23.5	24	18	F10	32.5	43.5
100	4''	-	-	100	260	370	500	250	170	215	BW		52	28	30	22	F10	60	72
											SW								

*Reduced bore only available in buttwelded Ends

SF SERIES

CL800/600/400/300 (2000/1500/1000/750 psi)
FULL BORE - DN 15 (½'') ÷ 100 (4")
REDUCED BORE - DN 20 (¾'') ÷ 100 (4")
LOCKING DEVICE VERSION





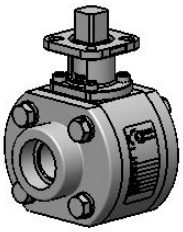
BILL OF MATERIALS

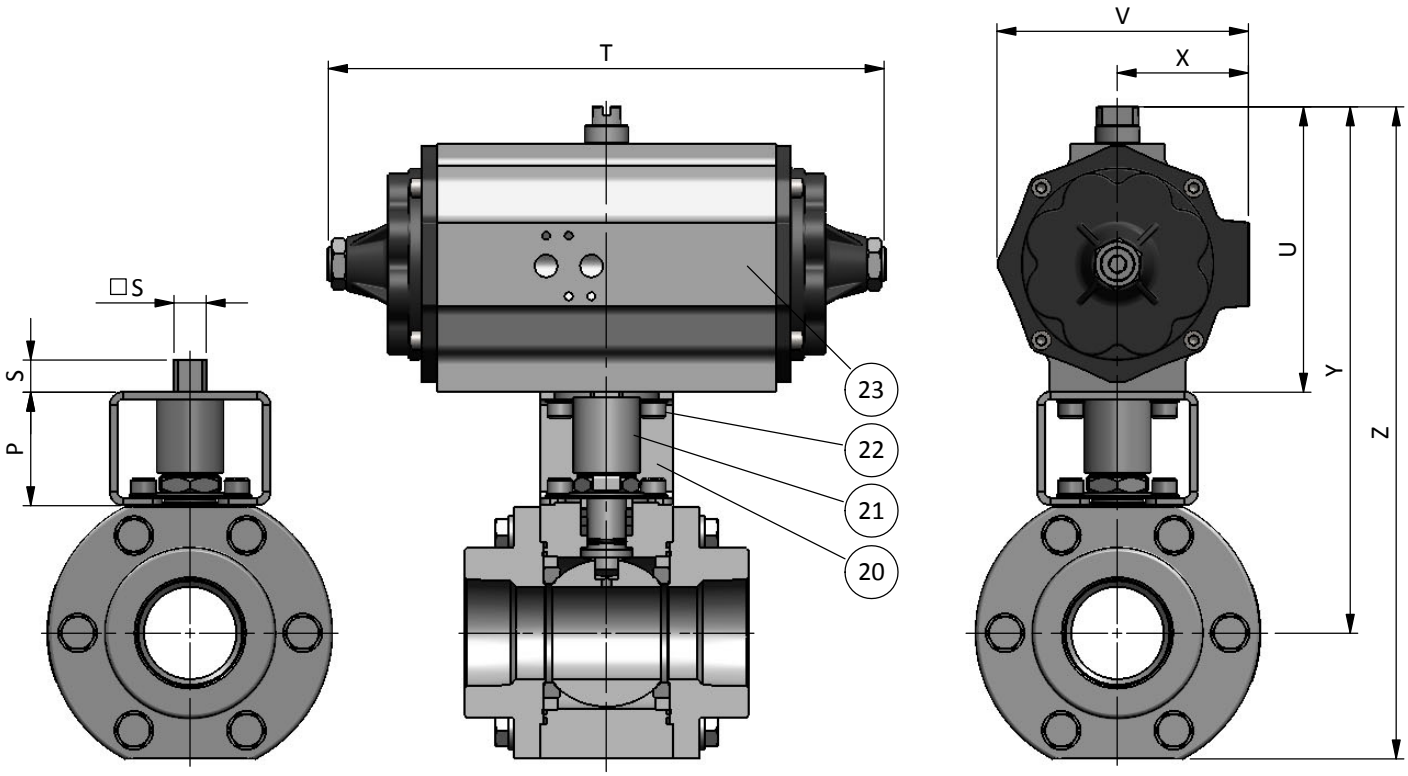
Part	Qt.	Description	Material		
			CARBON STEEL VERSION	STAINLESS STEEL VERSION	DUPLEX VERSION
18	1	Locking Plate	CARBON ST. ZINC.		STAINLESS ST. 316
19	3	Bolt	STAINLESS ST. 304		STAINLESS ST. 316

DN / Size				D	E
FULL BORE		REDUCED BORE			
mm	inch	mm	inch		
15	½''	20	¾''	48	72.5
20	¾''	25	1''	59.5	92.5
25	1''	32	1¼''	63.5	96.5
32	1¼''	40	1½''	75	115
40	1½''	50	2''	80	120
50	2''	65	2½''	105	150
65	2½''	80	3''	125	175
80	3''	100	4''	135	185
100	4''	-	-	170	215

SF SERIES

CL800/600/400/300 (2000/1500/1000/750 psi)
FULL BORE - DN 15 (½'') ÷ 100 (4")
REDUCED BORE - DN 20 (¾'') ÷ 50 (2")
BRACKET FOR AUTOMATION VERSION





BILL OF MATERIALS

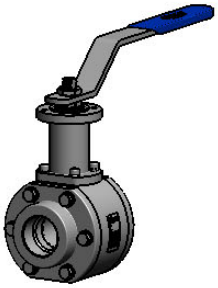
Part	Qt.	Description	Material		
			CARBON STEEL VERSION	STAINLESS STEEL VERSION	DUPLEX VERSION
20	1	Bracket	A351 CF8M / STAINLESS ST. 304		
21	1	Stem Extension	A479 316/L		
22	8	Bolt	STAINLESS ST. 316		
23	1	Pneumatic Actuator	ALUMINIUM		

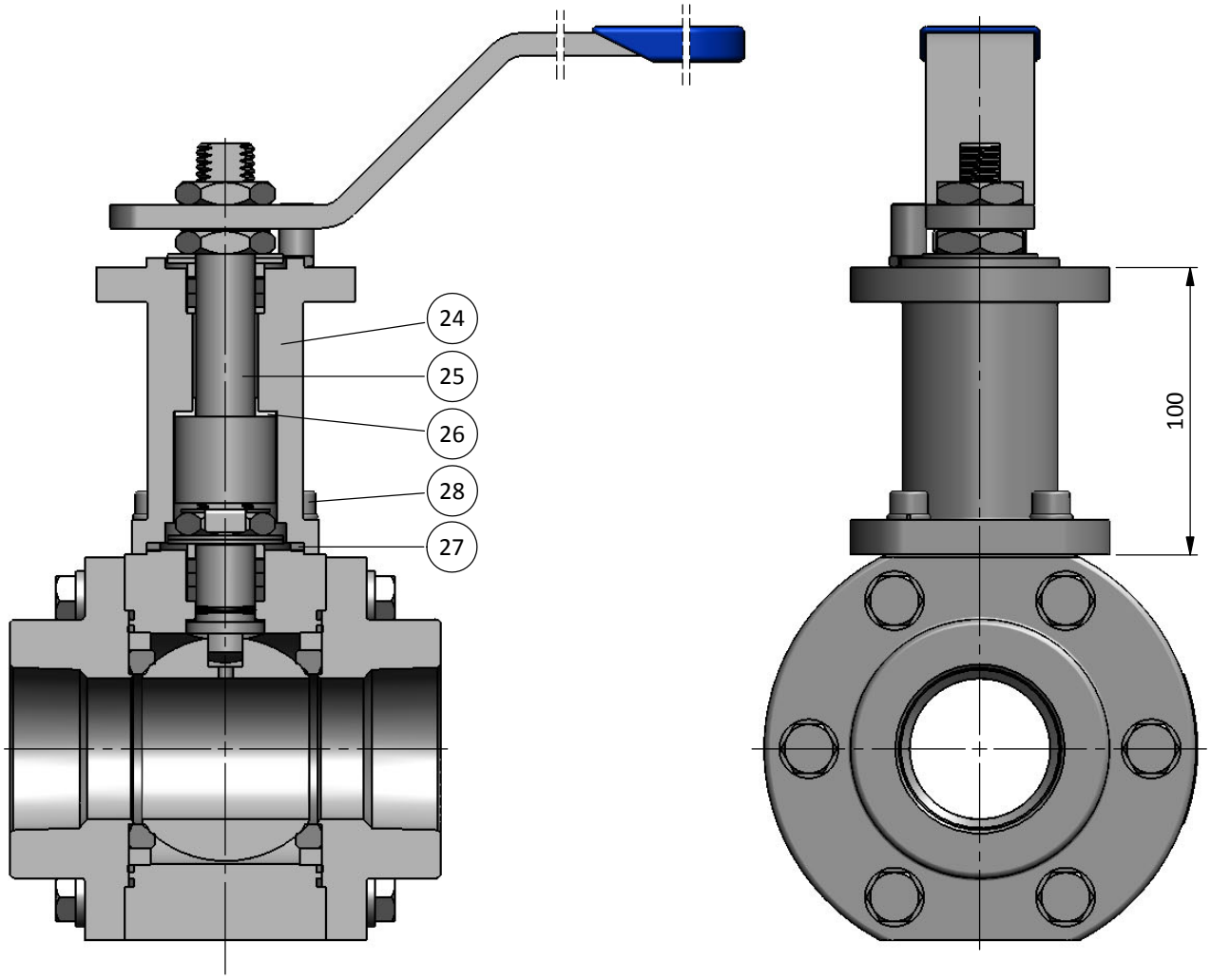
DN / Size				Automation		Actuator *						
FULL BORE		REDUCED BORE		P	S	REF.	T	U	V	X	Y	Z
mm	inch	mm	inch									
15	½''	20	¾''	30	9/11	005-10	180	111	89	49	175	205
20	¾''	25	1''	35	11/14	008-10	233	131	112	57	205	240
25	1''	32	1¼''	35	11/14	008-10	233	131	112	57	210	250
32	1¼''	40	1½''	45	14/17	012-08	280	131	112	57	210	255
40	1½''	50	2''	45	14/17	020-14	294	151	133	70	235	285
50	2"	65	2½''	60	17/22	020-14	294	151	133	70	280	345
65	2½''	80	3"	60	17/22	030-18	286	189	169	85	330	410
80	3"	100	4"	80	22/27	040-18	344	199	169	85	370	460
100	4"	-	-	80	22/27	100-18	440	246	210	108	445	560

*Pneumatic Actuators selected for PTFE and filled PTFE seats considering input air pressure of 5.5bar and minimum 25% safety margin

SF SERIES

CL800/600/400/300 (2000/1500/1000/750 psi)
FULL BORE - DN 15 (½'') ÷ 100 (4")
REDUCED BORE - DN 20 (¾'') ÷ 100 (4")
EXTENDED STEM VERSION





BILL OF MATERIALS

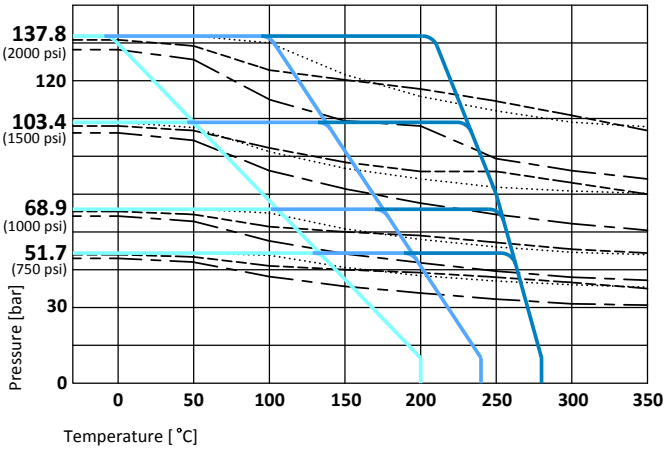
Part	Qt.	Description		CARBON STEEL VERSION	STAINLESS STEEL VERSION	DUPLEX VERSION
24	1	Extension		A350 LF2 cl.1	A479 316/L	
25	1	Stem Extension		A479 316/L		
26	1	Bearing	↘	TFM 1600		
27	1	Extension Seal	↘	GRAPHITE		
28	4	Bolt		STAINLESS ST. 316		

SF SERIES

CL800/600/400/300 (2000/1500/1000/750 psi)
FULL BORE - DN 15 (½'') ÷ 100 (4")
REDUCED BORE - DN 20 (¾'') ÷ 100 (4")
TECHNICAL SPECIFICATIONS

Pressure - Temperature Rating

A350 LF2 cl.1 | A479 316/L | A479 S31803 | PEEK | C-RPTFE | TFM1600



Work Conditions

Material		mOT* [°C]		MOT* [°C]
A350 LF2 cl.1 A479 S31803	TFM 1600	-46		200
	C-RPTFE	-46		240
	PEEK	-46		280
A479 316/L	TFM 1600	-50	-100*	200
	C-RPTFE	-50	-100*	240
	PEEK	-50		280

*mOT - minimum Operating Temperature
*MOT - Maximum Operating Temperature at 10 bar
Standard version recommended up to -50 °C
*Extended version recommended up to -100 °C

DN	Rating
FB 15 (½") to 40 (1½") RB 20 (¾") to 50 (2")	137.8 bar / 2000 psi
FB 50 (2")	103.4 bar / 1500 psi
FB 65 (2½") to 80 (3")	68.9 bar / 1000 psi
FB 100 (4")	51.7 bar / 750 psi

DN / Size				Torque Valve Figure [Nm] *						Maximum Allowable Stem Torque [Nm]					Flow Coefficient Cv
FULL BORE		REDUCED BORE		C-RPTFE						316/L	S31803	S32760	S17400	718	
mm	inch	mm	inch	BTO	RTO	ETO	BTC	RTC	ETC	MAST					
15	½''	20	¾''	8	5	6	6	5	7	16	25	30	40	53.5	20
20	¾''	25	1''	14	8	11	11	8	12	29.5	45	55	71.5	98.5	45
25	1''	32	1¼''	18	10	14	14	10	15	29.5	45	55	71.5	98.5	75
32	1¼''	40	1½''	32	18	24	24	18	26	82.5	125	150	200	275	105
40	1½''	50	2''	46	26	35	35	26	37	82.5	125	150	200	275	175
50	2"	65	2½''	50	28	38	38	28	40	110	240	290	385	535	300
65	2½''	80	3"	70	39	53	53	39	56	205	445	540	715	1000	500
80	3"	100	4"	100	55	75	75	55	80	205	445	540	715	1000	1000
100	4"	-	-	200	110	150	150	110	160	405	880	1075	1420	1950	2000

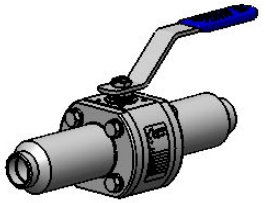
*Values without safety margin

Reference BTO 100% - RTO 55% | ETO 75% | BTC 75% | RTC 55% | ETC 80%

CERTIFICATION	CONSTRUCTION STANDARDS	TEST STANDARDS
CE Certification acc. to **PED 2014/68/EU** **Fire Safe Design** acc. to **API 607Ed.6/ISO 10497** **ATEX II 2GD** Design acc. to **2014/34/EU** Fugitive Emissions Class B acc. to **ISO 15848 CO1** (-46 °C to RT) Quality System Certified acc. to **ISO 9001**	ASME B16.34 | ISO 17292 ASME B1.20.1 | ISO 7-1 | ISO 228-1 ASME B16.25 | ASME B36.10M ASME B16.11 MSS-SP-25 ISO 5211	Pressure tests according to: EN12266-1 / API 598 / ISO 5208 Rate A Tests applied: Hydrostatic Shell Test Hydrostatic Seat Test Pneumatic Tightness Test Pneumatic Seat Test EN 10204 type 3.1 Certificate

Standards acc. to the latest available revision






SERIE	CLASS	VERSION	PORT	DN	ENDS	BODY	BALL | STEM	BOLTING	SEATS | 1ª SEAL	PACKING | 2ªSEAL O'RING	OPTIONS
SF		2	F - FB	015	**BUTTWELD**	**B - A350 LF2 cl.1**	A - A479 410 | A479 410	A - B7	1 - PTFE | PTFE	**1 - Grafite | Grafite | FKM**	A - 2 Opposite sides Flattened Ends
			R - RB	020	B1 - BW SCH 10	**F - A479 316/L**	C - A479 316/L | A564 S17400	C - B7M	2 - TFM 1600 | PTFE	2 - V TFM 1600 | PTFE	C - Spring Return
	4 - CL800			025	B2 - BW SCH 40	**T - A479 S31803**	D - A479 316/L | A479 316/L	**D - L7M**	**3 - C-RPTFE | C-RPTFE**	3 - V C-RPTFE | C-RPTFE	D - Simple Extension 60 mm
				032	B3 - BW SCH 80	Z - Others	E - A351 CF8M | A564 S17400	**F - B8M cl.2**	4 - PEEK NATURE | C-RPTFE		E - Extension 100 mm
				040	B4 - BW SCH 160		**F - A351 CF8M | A479 316**	G - B8 cl.2	5 - PEEK MOD | C-RPTFE		F - Bracket Automation
	3 - CL600			050	B6 - BW ISO 1127 S1		**T - A479 S31803**		6 - DEVLON | C-RPTFE		G - Gear Box
	3 - CL400			065	B9 - OTHERS		Z - Others		7 - UHMWPE | UHMWPE		H - Actuators
				080	**SOCKETWELD**						I - Switch Box / Limit Swiches
	2 - CL300			100	C1 - SW ASME B16.11						L - Locking Lever/Handle
					C9 - OTHERS						O - Oval Lever/Handle
					THREADED						R - Bare Shaft / Bare Stem
					D1 - BSP - ISO 228/1						S - Solenoid Valve
					D2 - BSPT - ISO 7/1						T - Upstream Relief Hole
					D3 - NPT - B1.20.1						W - "V" Ball Port
					D9 - OTHERS						Y - Full Execution SS.316
					INTEGRAL NIPPLE						Z - Others
					N1 - BW SCH 10						
					N2 - BW SCH 40						
					N3 - BW SCH 80						
					N4 - BW SCH 160						
					N6 - BW ISO 1127 S1						
					N9 - OTHERS						
					WELDED BLOCK						
					W100 - BLOCK 100						
					W500 - BLOCK 500						

Example:

SF42F015B1D3BFD31E

SF22F100N1N1FFF12

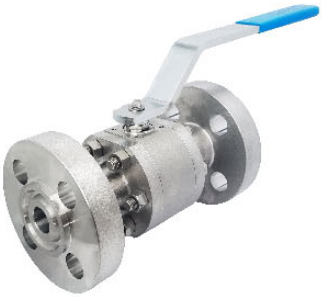
INDUSTRIAL RANGE

CF Series
2 split body - Floating
Cl 150/300
DN ½" (15) to 4" (100)

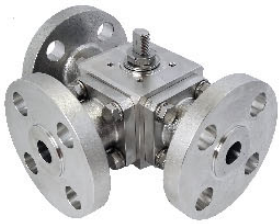
BF Series
2 split body - Floating
Cl 150 to 600
DN ½" (15) to 4" (100)

XF Series
3 pieces bolted - Floating
Cl 300 to 600
DN ⅜" (10) to 4" (100)

HF Series
3 pieces bolted - Floating
Cl 1500/2500
DN ½" (15) to 1½" (40)



ST Series
Multi-ways - Floating
Cl 150 to 600
DN ⅜" (10) to 2" (50)

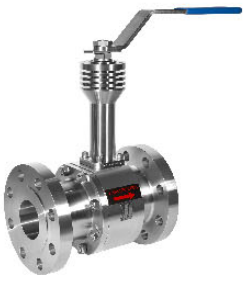


VTR Series
3 pieces bolted - Trunnion
Cl 150 to 2500
DN ½" (15) to 12" (300)

OTHER RANGE

SANITARY RANGE
XP / RP / LP / MP

CRYOGENIC RANGE
CCF / CXF / CBF / CSF / CVTR



METALLIC SEATS RANGE
CFM / XFM / BFM / SFM / VTM